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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,937	03/11/2004	Makoto Yoshida	FUJO 21.011	7999
26304 7590 09/04/2007 KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585			EXAMINER JAIN, RAJ K	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 09/04/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,937

Applicant(s)

YOSHIDA ET AL.

Examiner

Raj K. Jain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20070829.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 11-13, 15 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim (USP 7,058,151 B1).

Regarding claims 1, 2, 4, 11-13, 15 and 22, Kim discloses an automatic frequency control device in an OFDM (Orthogonal Frequency Divisional Multiplexing) system (abstract, Fig. 2), comprising: a correlation unit 21 (Fig. 2) calculating a correlation value between a guard interval and data of an incoming signal (col 2 lines 11-45); an averaging unit averaging correlation values across a plurality of symbols and a plurality of frames (col 3 lines 1-5); a peak position detecting unit 25 detecting a peak position of the averaged correlation value (col 2 lines 51-55); and a control unit controlling an oscillator using a prescribed step, based on the detected peak position (col 4 lines 34-54, the comparator serves as the control unit for comparing the correlation value to a predetermined threshold).

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5-8, 14-16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (USP 7,058,151 B1) as applied to claims 1 and 12 above, and further in view of Isaksson et al (USP 5,812,523).

Kim fails to disclose a frequency error detection method which controls the oscillator to compensate for frequency errors.

Isaksson discloses a frequency error detection method which controls the oscillator to compensate for frequency errors (abstract, col 5 lines 35-47, col 6 lines 13-45). Error compensation allows for corrections in the frequency errors and thus synchronizing an OFDM receiver. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Isaksson within Kim so as to improve the synchronization of the OFDM receiver by controlling the oscillator.

Claims 6, 9, 10, 17, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (USP 7,058,151 B1) as applied to claims 1 and 12 above, and further in view of Crawford (US 2003/0063678 A1).

Kim fails to disclose modification of the width control step and/or pulling of frames for averaging.

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Crawford discloses modification of the width control step and/or pulling of frames for averaging (abstract, paras 9, 10, 77, Fig. 17). Crawford provides a pilot tracking system within an OFDM based transceivers for tracking phase error that minimizes frequency errors that occur due to frequency pulling. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Crawford within Kim so as to improve OFDM synchronization by reducing frequency errors occurring due to frequency pulling and/or pushing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj K. Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raj K. Jain

/Raj K. Jain/

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August 30, 2007